

AMENDMENTS TO THE CLAIMS

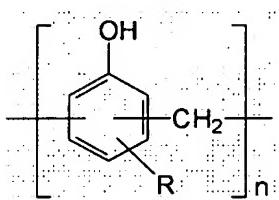
Please **AMEND** claims 1 – 10 as shown below.

Please **ADD** new claims 11-16 as shown below.

The following is a complete list of all claims in this application.

1. (Currently Amended) A photoresist composition for an multi-micro nozzle (MMN) head coater, comprising:
 - (a) 5 wt% to 30 wt% of a polymer resin represented by the following Chemical Formula 1;
 - (b) 2 wt% to 10 wt% of a diazide photoactive compound;
 - (c) 50 wt% to 90 wt% of an organic solvent; and
 - (d) 500 ppm to 4000 ppm of a Si-based surfactant:

Chemical Formula 1



wherein R is C₁ to C₄ alkyl, and n is an integer of 15 to 10,000.

2. (Currently Amended) The photoresist composition according to of Claim 1, wherein the polymer resin is a novolak resin having a molecular weight ranging from about 2000 to 12,000.

3. (Currently Amended) The photoresist composition according to ~~to~~ of Claim 1, wherein the organic solvent is one or more substances selected from ~~a~~the group consisting of propyleneglycol methyl ether acetate (PGMEA), ethyl acetate-lactate (EL), 2-methoxyethylacetate (MMP), n-butyl acetate (nBA), propyleneglycol monomethyl ether (PGME), and ethyl-3-ethoxypropionate (EEP).

4. (Currently Amended) The photoresist composition according to ~~to~~ of Claim 1, wherein the organic solvent is a mixture of 50 wt% to 90 wt% of propyleneglycol methyl ether acetate (PGMEA) and 10 wt% to 50 wt% of ethyl-3-ethoxypropionate(EEP).

5. (Currently Amended) The photoresist composition according to ~~to~~ of Claim 1, wherein the Si-based surfactant is a polyoxyalkylene dimethylpolysiloxane copolymer compound.

6. (Currently Amended) The photoresist composition according to ~~to~~ of Claim 1, wherein the composition further comprises one or more the-nitrogen-containing crosslinking agents ~~of one or more~~ selected from ~~a~~the group consisting of a condensation product of urea and formaldehyde, a condensation product of melamine and formaldehyde, a methylol urea alkyl aldehyde condensate, ~~one of~~ a methylol urea alkylether-series, and ~~one of~~ a methylol melamine alkylether-series.

7. (Currently Amended) A pattern formation method, comprising:

(a) ~~a step of~~ coating the photoresist composition according to of Claim 1 on a substrate and drying it to prepare a photoresist film;

(b) ~~a step of~~ placing a patterned mask on the substrate and exposing the photoresist film to light; and

(c) ~~a step of~~ developing the exposed photoresist film to obtain a photoresist pattern.

8. (Currently Amended) The pattern formation method according to of Claim 67, wherein the photoresist composition is coated by the spray dispense method or the spin coating method.

9. (Currently Amended) The pattern formation method according to of Claim 67, wherein the photoresist composition is coated by the slit &and spin coating method.

10. (Currently Amended) A semiconductor device having a pattern formed by the method according to of Claim 7.

11. (New) A method for applying a photoresist composition to an MMN head coater, wherein the photoresist composition comprises:

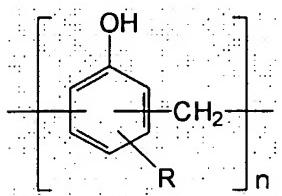
(a) 5 wt% to 30 wt% of a polymer resin represented by the following Chemical Formula 1;

(b) 2 wt% to 10 wt% of a diazide photoactive compound;

(c) 50 wt% to 90 wt% of an organic solvent; and

(d) 500 ppm to 4000 ppm of a Si based surfactant:

Chemical Formula 1



wherein R is C₁ to C₄ alkyl, and n is an integer of 15 to 10,000,

12. (New) The method of Claim 11,

wherein the polymer resin is a novolak resin having a molecular weight ranging from about 2000 to 12,000.

13. (New) The method of Claim 11,

wherein the organic solvent is one or more substances selected from the group consisting of propyleneglycol methyl ether acetate (PGMEA), ethyl lactate (EL), 2-methoxyethylacetate (MMP), n-butyl acetate (nBA), propyleneglycol monomethyl ether (PGME), and ethyl-3-ethoxypropionate (EEP).

14. (New) The method of Claim 11,

wherein the organic solvent is a mixture of 50 wt% to 90 wt% of propyleneglycol methyl ether acetate (PGMEA) and 10 wt% to 50 wt% of ethyl-3-ethoxypropionate (EEP).

15. (New) The method of Claim 11,

wherein the Si-based surfactant is a polyoxyalkylene dimethylpolysiloxane copolymer compound.

16. (New) The method of Claim 11,

wherein the composition further comprises one or more nitrogen-containing crosslinking agents selected from the group consisting of a condensation product of urea and formaldehyde, a condensation product of melamine and formaldehyde, a methylol urea alkyl aldehyde condensate, a methylol urea alkylether, and a methylol melamine alkylether.